

In the claims:

Please amend claim 1 as shown below.

1. (Currently amended) A detoxified and immunologically active protein having an amino acid sequence of heat-labile enterotoxin of *E. coli*, ~~in which position 63 wherein serine residue at position 63 is substituted with tyrosine or positions 110 and 112 is are~~ mutated in a site-directed manner.
2. (Original) A detoxified and immunologically active protein having an amino acid sequence of heat-labile enterotoxin of *E. coli* (SEQ ID NO:3), in which serine residue at position 63 is substituted with tyrosine.
3. (Original) A DNA sequence (SEQ ID NO:4) encoding the detoxified and immunologically active protein of claim 2.
4. (Original) A recombinant expression vector pBlueKS-/LTS63Y which comprises the DNA of claim 3.
5. (Original) *Escherichia coli* Top10F'-pBlueKS-/LTS63Y (KCTC 0648BP) transformed with the recombinant expression vector pBlueKS-/LTS63Y of claim 4.
6. (Original) A detoxified and immunologically active protein having an amino acid sequence of heat-labile enterotoxin of *E. coli* (SEQ ID NO:5), in which glutamic acid residues at positions 110 and 112 are deleted.
7. (Original) A DNA sequence (SEQ ID NO:6) encoding the detoxified and immunologically active protein of claim 6.

8. (Original) A recombinant expression vector pBlueKS-/LT Δ 110/112 which comprises the DNA of claim 7.
9. (Original) *Escherichia coli* Top10F'-pBlueKS-/ LT Δ 110/112 (KCTC 0649BP) transformed with the recombinant expression vector pBlueKS-/ LT Δ 110/112 of claim 8.
10. (Previously presented) A method for preparing the detoxified and immunologically active protein of claim 1 which comprises the steps of culturing a culture of recombinant microorganism transformed with an expression vector comprising a DNA encoding the protein and isolating the protein from the culture.
11. (Previously presented) The method according to claim 10, wherein the recombinant microorganism is *Escherichia coli* Top10F'-pBlueKS-/LTS63Y (KCTC 0648BP) or *Escherichia coli* Top10F'-pBlueKS-/LT Δ 110/112 (KCTC 0649BP).
12. (Original) A diarrheal vaccine comprising an active ingredient of the detoxified and immunologically active protein of claim 1 and pharmaceutically acceptable carrier.
13. (Original) A mucosal adjuvant comprising an active ingredient of the detoxified and immunologically active protein of claim 1.
14. (Previously presented) The protein of claim 1, wherein serine residue at position 63 is substituted with tyrosine.
15. (Previously presented) A nucleic acid encoding the protein of claim 14.

16. (Previously presented) A vector comprising the nucleic acid of claim 15.
17. (Previously presented) A host cell transformed with the vector of claim 16.
18. (Previously presented) The protein of claim 1, wherein glutamic acid residues at positions 110 and 112 are deleted.
19. (Previously presented) A nucleic acid encoding the protein of claim 18.
20. (Previously presented) A vector comprising the nucleic acid of claim 19.